

ABSTRACT OF THE DISCLOSURE

[0042] This invention includes atomic layer deposition methods of forming conductive metal nitride comprising layers. In one implementation, an atomic layer deposition method of forming a conductive metal nitride comprising layer includes positioning a substrate within a deposition chamber. A first species is chemisorbed to form a first species monolayer onto the substrate from a gaseous first precursor comprising at least one of an amido metal organic compound or an imido metal organic compound. The first species monolayer comprises organic groups. The chemisorbed first species is contacted with a second precursor plasma effective to react with the first species monolayer to remove organic groups from the first species monolayer. The chemisorbing and contacting are successively repeated under conditions effective to form a layer of material on the substrate comprising a conductive metal nitride.